



Gloucester Contributory Retirement System

Actuarial Valuation
January 1, 2006

STONE CONSULTING, INC.

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January 2, 2007

Gloucester Contributory Retirement Board
P.O. Box 114
Gloucester, MA 01931-0114

Dear Gloucester Contributory Retirement Board Members:

Stone Consulting, Inc. has performed a January 1, 2006 actuarial valuation of the Gloucester Contributory Retirement System. This valuation and report was prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board Statement (GASB) No. 25. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the Gloucester Contributory Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the plan's auditors.

The system's funding objective is currently being realized. The funding objective of the plan is to fully fund the system while attempting to maintain a stable contribution amount for the upcoming fiscal year that is consistent with prior funding schedules.

We anticipate over time that the contribution level to decrease as a percentage of payroll. The contribution rate is determined by adding the normal cost plus an amortization of the unfunded actuarial accrued liability. The normal cost is expected to remain at a level percentage of payroll. The number of years of the amortization and/or the rate of increase of the amortization is adjusted to maintain a stable contribution level for the upcoming fiscal year. The length of the funding schedule contained in this actuarial valuation report is twenty-one years (fully funded by 2028) and the amortization increase is 4.5% per year. The amortization increase cannot exceed 4.5% annually. The maximum length of the amortization is until fiscal 2028. These limits are contained in Chapter 32 of the Massachusetts General Laws.

The contribution amount for Fiscal 2008 is \$5,560,462 which is \$168,226 more than the anticipated contribution amount from the prior funding schedule. The Gloucester Contributory Retirement Board conducted the last actuarial valuation effective January 1, 2004. This satisfies the guidelines promulgated by PERAC and GASB that recommend valuations be conducted every two years.

We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond.

Respectfully submitted,

STONE CONSULTING, INC.

Actuaries for the Plan

Lawrence B. Stone
Member, American Academy of Actuaries



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

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GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

INTRODUCTION

This report presents the results of the actuarial valuation of the Gloucester Contributory Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2006 for the purpose of determining the contribution requirements for Fiscal Year 2008 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2005;
- The benefit provisions of M.G.L. Chapter 32;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2006);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (i.e., terminations, retirement, death, etc.)

JANUARY 1, 2006 VALUATION SUMMARY

	January 1, 2006	January 1, 2004	Change
Contribution Fiscal 2008¹	\$5,560,462	\$5,392,236	+ \$168,226
Funding Schedule Length	21 years	21 years	0
Amortization Increase	4.5%	4.5%	0
Funding Ratio	50%	49%	+ 1%
Interest Rate Assumption	7.875%	8.25%	- 0.375%
Salary Increase Rate Assumption	4.50%	5.00%	- 0.50%

¹ The Fiscal 2008 contribution amount shown assumes the contribution is made on August 1, 2007. The Fiscal 2008 contribution based on the January 1, 2006 actuarial valuation was \$5,525,448 assuming payment effective July, 1 2007. The anticipated Fiscal 2008 contribution based on the January 1, 2004 actuarial valuation on the same basis was \$5,392,236. \$133,212 less than the new contribution amount.



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- The Fiscal Year 2008 contribution is \$168,226 more than the planned 2008 contribution. The System experienced a \$1.2 million asset gain above the expected investment return of 8.25% for Calendar 2004 and 2005. Due to our use of an asset smoothing method, asset investment gains and/or losses above or below the expected rate of investment return is phased-in over 4 years. The benefit of asset smoothing is that it protects the System from short-term volatility in investment performance. The annual rate of return was 8.9% versus the assumption of 8.25%. There is about \$1.9 million of unrecognized net gains that we will recognize over the next three years.
- The rate of return, on a valuation asset basis, over calendar years 2004 and 2005, was 6.2%.
- The market value of assets effective January 1, 2004 was \$50.6 million; whereas the market value of assets effective January 1, 2006 was \$60.0 million. This is an increase of 18.6% over the two-year period. The Gloucester Contributory Retirement System's asset portfolio, effective December 31, 2005 was invested approximately 61% in equities and 39% from fixed income and cash.
- Major changes were made to the economic assumptions. The interest rate assumption was changed from 8.250% to 7.875% to reflect investment managers and economists predictions of lower future returns. The salary increase rate assumption was also reduced from 5.00% to 4.50% as actual experience of growth in average annual compensation over the course of the past two years was lower than expected at 2.0%, and Gloucester does not anticipate future increases significantly above those increases currently being provided.
- New annuity rates were recently enacted. In general, this will prospectively reduce the actuarial gains that the system had been receiving when members select Option C. The change in the annuity rates not only affects the conversion from Option A to Option C it also affects the calculation of certain accidental disability benefits. Individuals hired prior to 1987 are eligible for up to 100% of compensation if they retire under the accidental disability



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provisions. The benefit is calculated by adding 72% of pay to the annuity based on the

accumulated contributions. The new annuity rates significantly increase the annuity amounts and therefore increase the accidental disability benefits for these individuals. There was an increase of \$106,000 attributable to the Present Value of Future Benefits as a result of this annuity rate change.

- The funding level of the Gloucester Contributory Retirement System improved slightly from 49% for the 2004 valuation to 50% for the 2006 valuation. The funding level is estimated to be in the lowest quartile of Massachusetts' Contributory Retirement Systems.
- The schedule length is twenty-one (21) years. In consultation with the Retirement Board, it was decided that in conjunction with the valuation actuarial asset loss and the change in assumptions, we needed to allow for an increase in the contribution. The schedule's length is at the maximum permitted under Chapter 32 of the Massachusetts General Laws. The amortization increase of the January 1, 2008 schedule is 4.5% consistent with the schedule established in the prior valuation. The maximum amortization percentage permitted under Chapter 32 of the Massachusetts General Laws is 4.5%. If the System experiences future losses, there is no flexibility in the schedule to adjust the schedule's length or amortization. Asset smoothing is the only methodology available to us to potentially minimize the effect of any future losses.
- Non-economic assumptions are the same as the prior valuation. The valuation does reflect a change in the interest rate credited to the annuity savings account from 4% to 2%.
- GASB Statements 43 and 45 for Other Post-Employment Benefits (OPEB) will be applicable to Gloucester in Fiscal Year 2009. While not directly a Retirement Board issue, the Board should recognize that there will be pressure on cities to fund OPEB liabilities and that this will likely affect the availability of extra funds for the Retirement System.



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

SUMMARY OF JANUARY 1, 2006 VALUATION

	January 1, 2006	January 1, 2004	Percentage Change
Funding			
• Contribution for Fiscal 2008	\$5,560,462		
• Contribution for Fiscal 2008 based on current schedule		\$5,392,236	3.1%
Members			
• <i>Actives</i>			
a. Number	539	540	-0.2%
b. Annual Compensation	\$20,903,152	\$20,531,638	1.8%
c. Average Annual Compensation	\$38,781	\$38,022	2.0%
d. Average Attained Age	49.1	48.2	1.9%
e. Average Past Service	12.0	11.5	4.3%
• <i>Retired, Disabled and Beneficiaries</i>			
a. Number	411	404	1.7%
b. Total Benefits*	\$6,744,280	\$5,980,364	12.8%
c. Average Benefits*	\$ 16,409	\$14,803	10.8%
d. Average Age	72.3	71.9	0.6%
• <i>Inactives</i>			
a. Number	94	94	0.0%
Normal Cost			
a. Total Normal Cost as of January 1, 2006	\$2,905,357	\$2,765,765	5.0%
b. Less Expected Members' Contributions	<u>1,787,802</u>	<u>1,714,956</u>	4.2%
c. Normal Cost to be funded by the Municipality	\$1,117,555	\$1,050,809	6.4%
d. Adjustment to July 1, 2007	76,277	25,950	193.9%
e. Administrative Expense Assumption	<u>264,000</u>	<u>188,000</u>	40.4%
f. Normal Cost Adjusted to July 1, 2007	\$1,457,832	\$1,264,759	15.3%

*Excluding State reimbursed COLA



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

SUMMARY OF JANUARY 1, 2006 VALUATION (Continued)

	January 1, 2006	January 1, 2004	Percentage Change
Actuarial Accrued Liability as of January 1, 2006			
a. Active Members	\$53,812,658	\$49,680,921	8.3%
b. Inactive Members	1,140,189	1,132,600	0.7%
c. Retired Members and Beneficiaries	<u>62,450,479</u>	<u>54,938,466</u>	13.7%
d. Total	\$117,403,326	\$105,751,987	11.0%
Unfunded Actuarial Accrued Liability			
a. Actuarial Accrued Liability as of January 1, 2006	\$117,403,326	\$105,751,987	11.0%
b. Less Actuarial Value of Assets as of January 1, 2006	<u>58,165,437</u>	<u>52,051,078</u>	11.7%
c. Unfunded Actuarial Accrued Liability as of January 1, 2006	\$ 59,237,889	\$ 53,700,909	10.3%
d. Adjustment to July 1, 2007	\$ <u>3,653,612</u>	\$ <u>2,717,915</u>	34.4%
e. Unfunded Actuarial Accrued Liability as of July 1, 2007	\$ 62,891,501	\$ 56,418,824	11.5%



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

DEMOGRAPHIC INFORMATION

Members	January 1, 2006	Percentage Change
• <i>Actives</i>		
a. Number	539	-0.2%
b. Annual Compensation	\$20,903,152	1.8%
c. Average Annual Compensation	\$38,781	2.0%
d. Average Attained Age	49.1	1.9%
e. Average Past Service	12.0	4.3%
• <i>Retired, Disabled and Beneficiaries</i>		
a. Number	411	1.7%
b. Total Annual Retirement Allowance excluding State-reimbursed COLA	\$6,744,280	12.8%
• <i>Inactives</i>		
a. Number	94	0.0%

- The data was supplied by the Gloucester Retirement Board. The data was checked under broad parameters of reasonableness. With the assistance of the staff of the Gloucester Retirement Board, we were able to develop a database sufficient for valuation purposes. We have increased the pay data for most employees by .875% to reflect the effect of one-half year of retroactive pay increases of 1.75% per year which were given after the valuation date.
- Payroll increased by 1.8% over the course of the past two years. Average annual compensation increased by 2.0% over the same time period. We use average annual compensation as the measure that is most accurate in reflecting salary increase growth. There was a modest decrease in the number of active members during the same time period.
- The salary increase assumption includes general wage adjustments, step increases, and promotional increases. Compensation growth was notably less than the salary increase assumption. This is consistent with the limited salary and contract increases due to the City of Gloucester's difficult financial condition. The salary increase assumption was decreased by 0.5% to a 4.5% salary increase assumption as the new assumption is considered a more reasonable projection of future salary costs.



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

HISTORY OF ACTIVE PARTICIPANTS

Valuation Year	Number	Average Age	Average Past Service	Average Ann'l Compensation
2006	539	49.1	12.0	\$38,781
2004	540	48.2	11.5	\$38,022
2003	568	47.4	10.8	\$36,945

- Employee age has been increasing since 2003. Average past service since the last actuarial valuation has also increased during the same time period. Average annual compensation has grown 5.0% from 2003 to 2006. The average annual compensation growth has slowed down recently with only a 2% increase over the two-year period from 2004 to 2006. The increase in the average age is consistent with the layoffs that Gloucester had recently.

The current active member population is 5% less than the peak employment reported in 2003.

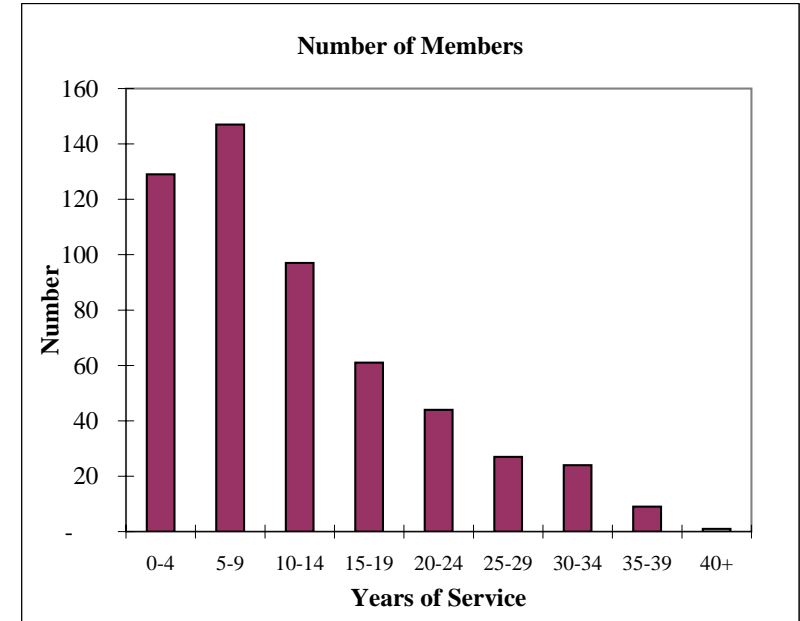
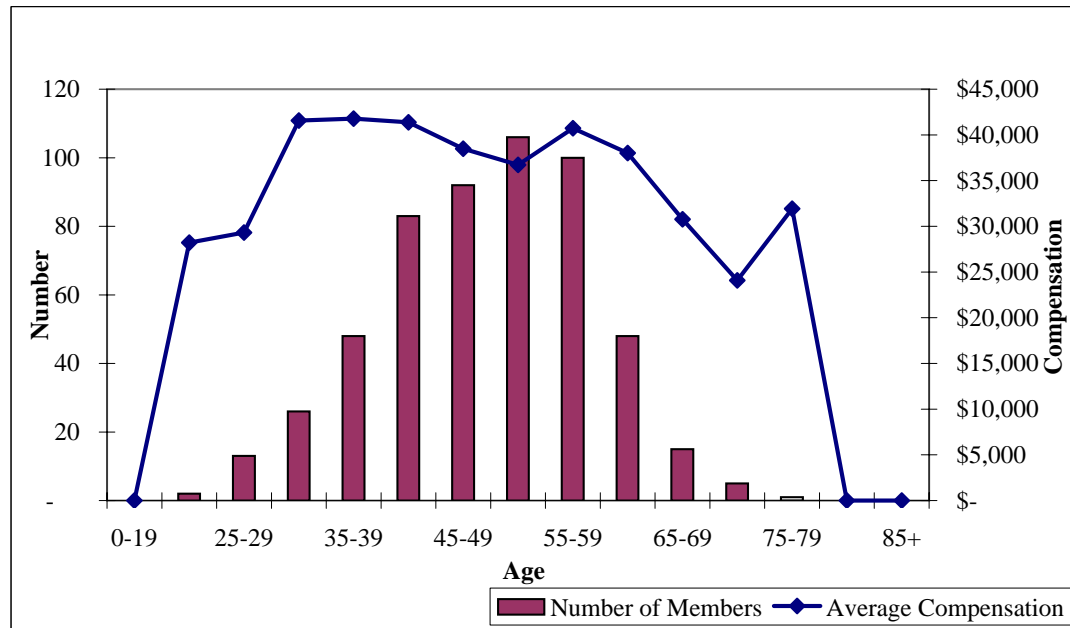
The charts on the following pages summarize demographic information regarding active and retiree members.



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

DISTRIBUTION OF PLAN MEMBERS AS OF JANUARY 1, 2006 ACTIVE MEMBERS

AGE	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40 + Years	Total	Total Compensation	Average Compensation
0-19	-	-	-	-	-	-	-	-	-	-	\$ -	\$ -
20-24	2	-	-	-	-	-	-	-	-	2	56,414	28,207
25-29	12	1	-	-	-	-	-	-	-	13	381,211	29,324
30-34	11	13	2	-	-	-	-	-	-	26	1,080,956	41,575
35-39	13	20	13	2	-	-	-	-	-	48	2,005,391	41,779
40-44	26	22	18	12	5	-	-	-	-	83	3,434,269	41,377
45-49	29	23	18	11	8	3	-	-	-	92	3,540,717	38,486
50-54	19	33	15	11	15	11	2	-	-	106	3,892,269	36,720
55-59	12	18	21	13	8	7	17	4	-	100	4,073,627	40,736
60-64	4	13	6	9	6	4	2	3	1	48	1,824,422	38,009
65-69	1	3	3	2	2	1	1	2	-	15	461,489	30,766
70-74	-	1	-	1	-	1	2	-	-	5	120,456	24,091
75-79	-	-	1	-	-	-	-	-	-	1	31,931	31,931
80-84	-	-	-	-	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	129	147	97	61	44	27	24	9	1	539	\$ 20,903,152	\$ 38,781





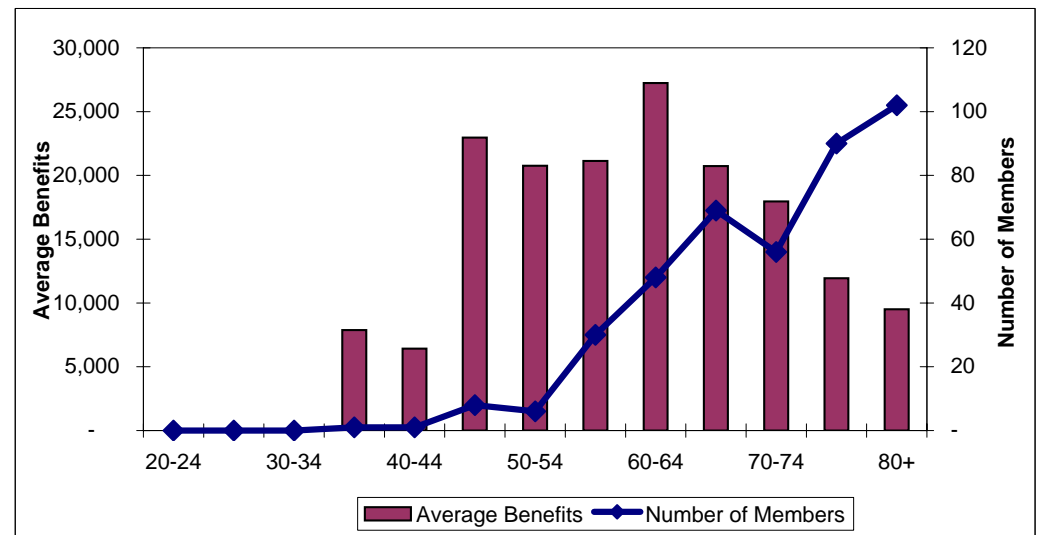
GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

DISTRIBUTION OF PLAN MEMBERS AS OF JANUARY 1, 2006 RETIRED MEMBERS

<u>Disabled Member</u>			
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	1	6,425	6,425
45-49	6	27,694	166,167
50-54	3	24,459	73,377
55-59	8	25,198	201,582
60-64	12	26,376	316,514
65-69	9	25,188	226,691
70-74	7	23,554	164,881
75-79	8	11,782	94,255
80+	15	14,593	218,895
TOTAL	69	\$ 21,287	\$ 1,468,788

<u>Retired Members and Beneficiaries</u>			
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	1	7,881	7,881
40-44	-	-	-
45-49	2	8,789	17,577
50-54	3	17,045	51,136
55-59	22	19,651	432,330
60-64	36	27,522	990,809
65-69	60	20,061	1,203,684
70-74	49	17,156	840,663
75-79	82	11,958	980,571
80+	87	8,630	750,842
TOTAL	342	\$ 15,425	\$ 5,275,493

<u>Total</u>			
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	1	7,881	7,881
40-44	1	6,425	6,425
45-49	8	22,968	183,744
50-54	6	20,752	124,513
55-59	30	21,130	633,912
60-64	48	27,236	1,307,322
65-69	69	20,730	1,430,375
70-74	56	17,956	1,005,544
75-79	90	11,943	1,074,827
80+	102	9,507	969,737
TOTAL	411	\$ 16,409	\$ 6,744,280



Benefits shown are net of State reimbursed COLA.



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VALUATION METHODOLOGY

Stone Consulting, Inc. used the Entry Age Normal actuarial funding method in this actuarial valuation. The use of the Entry Age Normal actuarial funding method is consistent with the requirements of Chapter 32 of the Massachusetts General Laws.

NORMAL COST

	January 1, 2006	% of Payroll
Gross Normal Cost (GNC)	\$ 2,905,357	13.9%
Employees Contribution	<u>1,787,802</u>	<u>8.6%</u>
Net Normal Cost (NNC)	\$ 1,117,555	5.3%
Adjusted to Beginning of Fiscal Year 2008	\$ 76,277	
Administrative Expense	\$ <u>264,000</u>	1.3%
Adjusted Net Normal Cost With Admin. Expense	\$ 1,457,832	

- The gross normal cost (GNC) is the “price” of benefits accruing in the current year if the assumptions underlying the normal cost were realized.
- An individual normal cost represents that part of the cost of a member’s future benefits that are assigned to the current year as if the costs are to remain level as a percentage of the member’s pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation.
- Anticipated employee contributions to be made during the year are subtracted from the GNC to determine employer normal cost, or net normal cost (NNC).



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ACTUARIAL ACCRUED LIABILITY AND FUNDED STATUS

		January 1, 2006	Percentage Change
Active Actuarial Accrued Liability		\$ 53,812,658	8.3%
Superannuation	\$ 45,661,179		
Death	\$ 1,527,031		
Disability	\$ 5,493,098		
Termination	\$ 1,131,350		
Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability		<u>63,590,668</u>	13.4%
Retirees and Beneficiaries	\$ 48,160,200		
Disabled	\$ 14,290,279		
Inactive	\$ 1,140,189		
Total Actuarial Accrued Liability (AAL)		\$ 117,403,326	11.0%
Actuarial Value of Assets (AVA)		\$ <u>58,165,437</u>	11.7%
Unfunded Actuarial Accrued Liability		\$ 59,237,889	10.3%
Funded Ratio (AVA / AAL)			
2006 (7.875% interest rate):	50%		
2004 (8.250% interest rate):	49%		

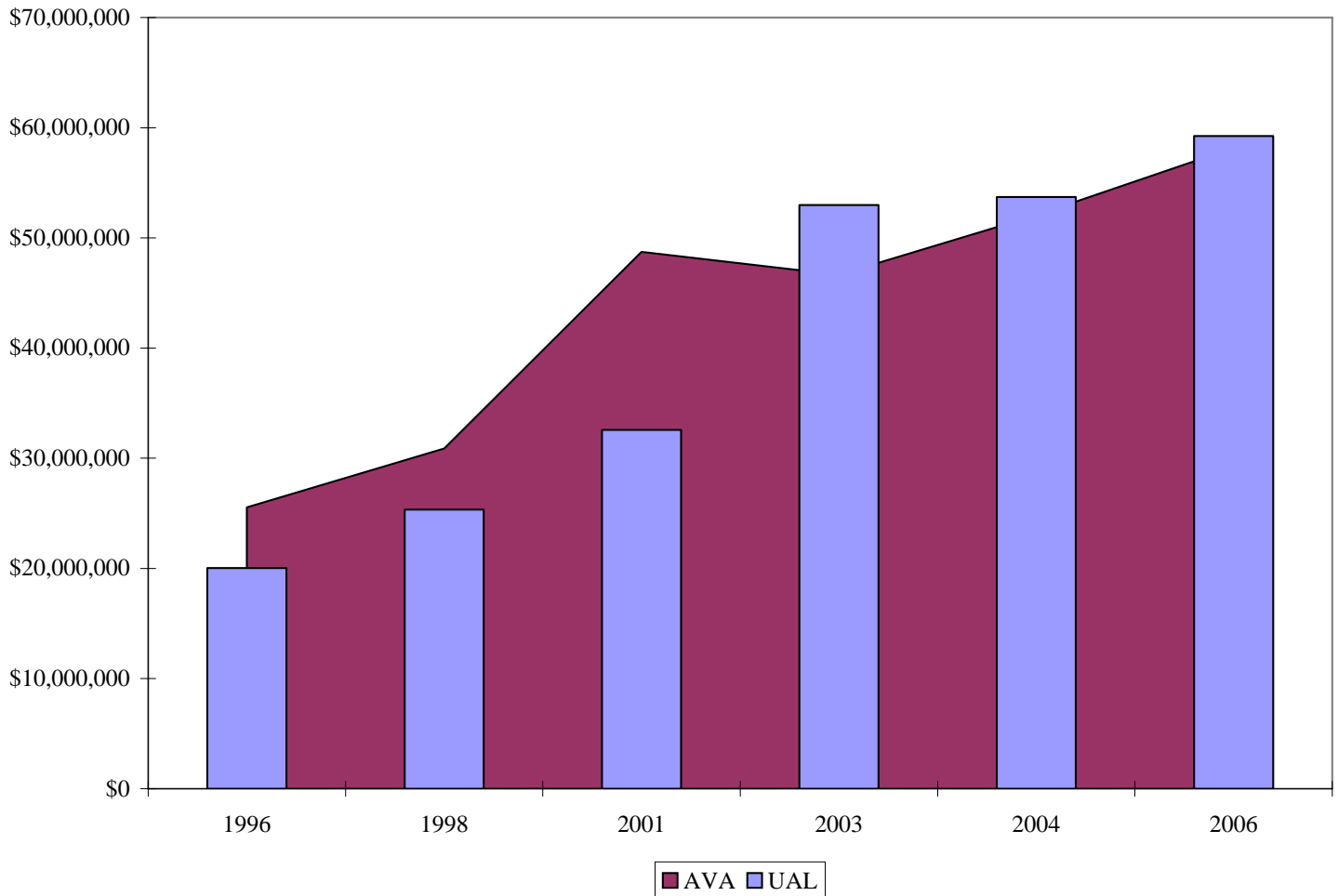
- Actuarial Accrued Liability (AAL) is the “price” of benefits attributable to benefits earned in past years, or in other words, represents today’s value of all benefits earned by active and inactive members.
- The total AAL is \$117,403,326. This along with an actuarial value of assets of \$58,165,437 produces a funded status of 50%. This compares to a funded status of 49% for the 2004 valuation. If the assumptions were not changed the funding status would have been 51%.

The chart on the following page is a history of the unfunded actuarial accrued liability (UAL) and the valuation assets (AVA) over the course of the past six actuarial valuations.



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

HISTORY OF ACTUARIAL VALUATION OF ASSETS (AVA) AND UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAL)





GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

DEVELOPMENT OF FUNDING SCHEDULE

Net Employer Normal Cost for Fiscal 2008	\$	1,457,832
Amortization		<u>4,067,616</u>
Total Appropriation required for Fiscal 2008	\$	5,525,448
Total Appropriation adjusted for August 1 Payments:	\$	5,560,462

- The funding schedule is composed of the normal cost, and the amortization of the actuarial accrued unfunded liability.
- The contribution amount for Fiscal 2008 is \$5,560,462. The funding schedule is presented on page 15. The schedule's length is twenty-one years which is the same as the January 1, 2004 valuation schedule's length. The maximum funding schedule length allowed by Chapter 32 of the Massachusetts General Laws is 21 years.
- In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability, except for the remaining liability from past early retirement incentives, is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. The use of a fresh-start approach results in a funding schedule in which the changes in contribution amounts from year to year are more consistent. The amortization percentage increase also remained the same as the January 1, 2004 valuation at 4.5%. The maximum amortization increase allowed under Chapter 32 is 4.5%.
- We have assumed that the contribution will be made effective August 1. Previously contributions had been paid at the beginning of the year. The adjustment was made to coordinate with the City's cash flow.



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

FUNDING SCHEDULE

Fiscal Year	Normal Cost	Unfunded Liability	Funding Amortization of UAL	Schedule Contribution	Adjusted for August 1 Payments
2008	1,457,832	62,891,501	4,067,616	5,525,448	5,560,462
2009	1,523,434	63,456,266	4,248,058	5,771,493	5,808,066
2010	1,591,989	63,870,854	4,436,620	6,028,609	6,066,812
2011	1,663,628	64,114,680	4,633,667	6,297,296	6,337,201
2012	1,738,492	64,165,142	4,839,582	6,578,073	6,619,758
2013	1,816,724	63,997,448	5,054,762	6,871,486	6,915,030
2014	1,898,476	63,584,422	5,279,626	7,178,102	7,223,589
2015	1,983,908	62,896,299	5,514,608	7,498,516	7,546,034
2016	2,073,184	61,900,499	5,760,165	7,833,349	7,882,988
2017	2,166,477	60,561,386	6,016,772	8,183,249	8,235,105
2018	2,263,969	58,840,002	6,284,926	8,548,894	8,603,068
2019	2,365,847	56,693,789	6,565,147	8,930,994	8,987,589
2020	2,472,310	54,076,273	6,800,184	9,272,495	9,331,253
2021	2,583,564	50,999,080	7,106,193	9,689,757	9,751,160
2022	2,699,825	47,349,453	7,425,971	10,125,796	10,189,962
2023	2,821,317	43,067,456	7,760,140	10,581,457	10,648,510
2024	2,948,276	38,087,767	8,109,346	11,057,622	11,127,693
2025	3,080,948	32,339,221	8,474,267	11,555,215	11,628,440
2026	3,219,591	25,744,319	8,855,609	12,075,200	12,151,719
2027	3,364,473	18,218,696	9,254,111	12,618,584	12,698,547
2028	3,515,874	9,670,546	9,670,546	13,186,420	13,269,981
2029	3,674,088	-	-	3,674,088	3,697,371
2030	3,839,422	-	-	3,839,422	3,863,752

Amortization of Unfunded Liability as of July 1, 2007

Year	Type	Original Amort. Amount*	Percentage Increasing	Original # of Years	Current Amort. Amount	Years Remaining
2005	ERI - HA 2002	3,744	0.00%	15	3,744	12
2005	ERI - HA 2003	6,414	0.00%	15	6,414	12
2005	ERI - City 2003	47,635	0.00%	15	47,635	12
2008	Fresh Start	4,009,823	4.50%	21	4,009,823	21

Notes on Amortization of Unfunded Liability

Year is the year the amortization base was established.

Type is the reason for the creation of the base. Examples are Gain/(Loss) or Fresh Start.

Original Amortization Amount is the annual amortization amount when the base was established.

Percentage Increasing is the percentage that the Original Amortization Amount increases per year.

Original # of Years is the number of years over which the base is being amortized.

Current Amortization Amount is the amortization payment amount for this year.

Years Remaining is the number of years left to amortize the base.

* Adjusted for change in interest rate



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

ASSUMPTIONS AND METHODOLOGY SUMMARY

The principal actuarial assumptions used in this valuation are the same as the assumptions used in the previous valuation, except where noted, and are summarized in the following table:

<u>Assumption</u>	<u>January 1, 2006 Valuation</u>
Interest Rate	7.875% (prior valuation: 8.25%)
Salary Increase	4.50% (prior valuation: 5.0%)
COLA	3% of \$12,000
COLA Frequency	Granted every year
Mortality	RP-2000 table. For members retired under an Accidental Disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality RP2000 table, ages set forward 5 years.
Overall Disability	<u>Groups 1 and 2</u> 45% ordinary disability 55% accidental disability <u>Group 4</u> 10% ordinary disability 90% accidental disability
Retirement Rates	<u>Groups 1 and 2</u> Ages 55 – 65 <u>Group 4</u> Ages 50 – 65
Administrative Expense	\$264,000 budget estimated for FY 2008 from 2006 calendar budget.



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

ASSETS

a.	Cash	\$	1,513,625.62
b.	Equities		6,675,742.59
c.	Pooled Domestic Equity Funds		15,638,763.14
d.	Pooled International Equity Funds		9,230,274.84
e.	Pooled Domestic Fixed Income Funds		16,337,180.42
f.	Pooled Real Estate Funds		3,227,108.00
g.	Pooled Domestic Balance Funds		<u>7,434,237.30</u>
h.	Sub-Total:		60,056,931.91
i.	Interest Due and Accrued	\$	1,145.08
j.	Accounts Receivable		29,219.69
k.	Accounts Payable		(23,276.65)
l.	Sub-Total:	\$	7,088.12
m.	Market Value of Assets [(h) + (l)]	\$	60,064,020.03

- We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2005 (adjusted for interest due and accrued, payables and receivables) is \$60,064,020.03.
- The asset allocation is approximately 29% cash, receivables, payables and fixed income, 26% Pooled Domestic Equity Funds, 11% equities, 15% Pooled International Equity Funds, 12% Domestic Balance Funds, and 5% Pooled Real Estate Funds (amount does not total 100% due to rounding).
- Historically, 10 to 11% has been the expected long-term rate of return for equities, and 6 to 7% has been the expected long-term rate of return for fixed income securities. Many economists and investment professionals are projecting lower returns of 6.25 to 9.00% for equities and 3.65 to 6.00% for fixed income securities. In light of these projections, as well as historical investment returns, the interest rate assumption was lowered from 8.25% to 7.875% interest rate assumption is within the reasonable assumption range. We encourage close monitoring for changes in investment performance against expectations.



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

CALCULATION OF VALUATION ASSETS AS OF JANUARY 1, 2006 4-Year Phase-In of Asset Gains and Losses

1. Market value of assets including receivable/payable as of January 1, 2006 \$60,064,020

2. Phase-in of asset gains and losses

Plan Year (1)	Original Amount (2)	Percent Unrecognized (3)	Amount Unrecognized (2) x (3)
a. 2005	(\$56,413)	75%	(\$42,310)
b. 2004	\$1,268,202	50%	\$634,101
c. 2003	\$5,227,168	25%	\$1,306,792
d. Total			<hr/> \$1,898,583

3. Corridor Check

a. 90% of Market Value	\$54,057,618
b. 110% of Market Value	\$66,070,422

4. Valuation assets as of January 1, 2006
(1. - 2.d.) without Corridor \$58,165,437

5. Valuation assets as of January 1, 2006
(within Corridor) \$58,165,437

6. Calculation of return on valuation assets

a. Valuation assets as of January 1, 2004	\$52,051,078
b. ER contribs + EE contribs - Ben Pymts - Expenses	(\$496,437)
c. Actual return on valuation assets 5. - (6.a. + 6.b.)	\$6,610,796
d. Weighted value of valuation assets	\$51,661,424
e. Return on valuation assets (6.c. / 6.d.)	12.80%
f. Annualized return on valuation assets	6.21%



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

DISCLOSURE INFORMATION UNDER GASB STATEMENT 25

SCHEDULE OF FUNDING PROGRESS

(Dollars In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded AAL (UAAL)	Funded Ratio	Covered Payroll	UAAL as a % of Covered Payroll (B-A)/C
	A	B	B-A	A/B	C	
1/1/2006	\$58,165	\$117,403	\$59,238	50%	\$20,903	283%
1/1/2004	\$52,051	\$105,752	\$53,701	49%	\$20,532	262%
1/1/2003	\$46,649	\$99,626	\$52,977	47%	\$20,985	252%
1/1/2001	\$48,733	\$81,303	\$32,570	60%	\$19,439	168%

NOTES TO SCHEDULES

Additional information as of the latest actuarial valuation follows:

Valuation date	1/1/2006
Actuarial cost method	Entry Age Normal
Amortization method	Approximate level percent of payroll Closed
Remaining amortization period	21 years
Asset valuation method	4-year asset smoothing with 90% to 110% corridor (market value of assets is \$60,064,020)
Actuarial assumptions:	
Investment Rate of Return	7.875% per year
Projected Salary Increases	4.50% per year



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

PERAC INFORMATION DISCLOSURE

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2006

The normal cost for employees on that date was: \$1,787,802 8.6% of payroll

The normal cost for the employer was: \$1,117,555 5.3% of payroll

The actuarial liability for active members was: \$53,812,658

The actuarial liability for retired members was (includes inactives): \$63,590,668

Total actuarial accrued liability: \$117,403,326

System assets as of that date: 58,165,437

Unfunded actuarial accrued liability: \$59,237,889

The ratio of system's assets to total actuarial liability was: 50%

As of that date the total covered employee payroll was: \$20,903,152

The principal actuarial assumptions used in the valuation are as follows:

Investment Return: 7.875% per annum

Rate of Salary Increase: per annum

SCHEDULE OF FUNDING PROGRESS (Dollars in \$000's)

Actuarial Valuation Date	Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
1/1/2006	\$58,165	\$117,403	\$59,238	50%	\$20,903	283%
1/1/2004	\$52,051	\$105,752	\$53,701	49%	\$20,532	262%
1/1/2003	\$46,649	\$99,626	\$52,977	47%	\$20,985	252%
1/1/2001	\$48,733	\$81,303	\$32,570	60%	\$19,439	168%



ACTUARIAL METHODS AND ASSUMPTIONS

Actuarial Methods

1. Actuarial Cost Method

The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age.

The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.
2. Asset Valuation Method

Market value of assets (adjusted by payables and receivables) adjusted to phase in investment gains or losses above or below the expected rate of investment return. A four-year rolling period is used. The phase-in is 25% for year one, 50% for year two, 75% for year three and 100% for year four. The actuarial value of assets may be no less than 90%, or more than 110% of the market value of assets plus payables and receivables..
3. Fiscal Year Adjustment

The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2008. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.

Actuarial Assumptions

1. Investment Return

7.875% per year net of investment expenses. The prior valuation was 8.250%.
2. Salary Increases

4.50% per year. The prior valuation was 5.0%.



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

3. Withdrawal Prior to Retirement

The rates shown at the following sample ages illustrate the withdrawal assumption.

<i>Age</i>	Rate of Withdrawal	
	<i>Group 1 and 2</i>	<i>Group 4</i>
20	37.51%	3.15%
25	28.23%	2.85%
30	17.35%	2.48%
35	10.07%	1.88%
40	7.21%	0.84%
45	5.68%	0.06%
50	4.57%	0.00%
55	0.00%	0.00%

4. Disability Prior to Retirement

The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

<i>Age</i>	Rate of Disability	
	<i>Group 1 and 2</i>	<i>Group 4</i>
25	0.04%	0.12%
30	0.06%	0.18%
35	0.08%	0.26%
40	0.12%	0.38%
45	0.18%	0.58%
50	0.31%	0.98%
55	0.50%	1.60%
60	0.61%	1.97%

Disability is assumed to be 45% ordinary and 55% accidental for Group 1 and 2 and 10% ordinary and 90% accidental for Group 4.



ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

5. Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service:

<i>Age</i>	Rates of Retirement	
	<i>Group 1 and 2</i>	<i>Group 4</i>
50	N/A	2%
51	N/A	2%
52	N/A	2%
53	N/A	2%
54	N/A	2%
55	10%	5%
56	3%	5%
57	3%	5%
58	3%	5%
59	5%	5%
60	5%	10%
61	5%	10%
62	10%	20%
63	10%	20%
64	10%	20%
65	100%	100%

6. Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct).

7. Disabled Life Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) set-forward by 5 years. Death is assumed to be due to the same cause as the disability 40% of the time.

8. Regular Interest Rate Credited to Annuity Savings Account

2% per year. Prior valuation was 4% per year.



ACTUARIAL METHODS AND ASSUMPTIONS (Continued)

- | | |
|------------------------------------|--|
| 9. Family Composition | Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the male being the older). |
| 10. Cost-of-Living Increases | A 3% COLA on the first \$12,000 of a member's retirement allowance is assumed to be granted every year. |
| 11. Administrative Expenses | Estimated budgeted amount of \$264,000 for the Fiscal Year 2008 excluding investment management fees and custodial fee is added to the Normal Cost. |
| 12. Step Increases | Step increases are assumed to be part of the salary increase assumption. |
| 13. Retroactive Salary Adjustments | Contracts were settled during 2006 that required payment of wage increases to covered employees to the beginning of the new contract term (7/1/2005). The annual wage adjustment for the first year of the contract was 1.75%; therefore, .875%, half of the wage increase, was added to employees' pay to reflect the six-month period between July 2005 and the end of 2005. |
| 14. Credited Service | Service between date of hire and date of membership is assumed to be purchased by all members. |
| 15. Contribution Timing | Contributions are assumed to be made effective August 1 of each year. |
| 16. Valuation Date | January 1, 2006. |



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL PROVISIONS

1. Participant

Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

Group 1: general employees

Group 2: employees in specified hazardous occupations (e.g., electricians)

Group 4: police and firefighters
2. Member Contributions

Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5% of Pay
1975 – 1983	7% of Pay
1984 – June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 contribute an additional 2% of pay over \$30,000.
3. Pay
 - a. Pay

Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.
 - b. Average Pay

The average of pay during the 3 consecutive years that produce the highest average or, if greater, during the last three years (whether or not consecutive) preceding retirement.
4. Credited Service

Period during which an employee contributes to the retirement system plus certain periods of military service and “purchased” service.



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

5. Service Retirement

- a. Eligibility Completion of 20 years of credited service or attainment of age 55 and completion of 10 years of credited service. If hired prior to 1978 or a member of group 4, attainment of age 55.
- b. Retirement Allowance Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

Benefit Percentage	Group 1	Group 2	Group 4
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45

In addition, veterans receive an additional \$15 per year for each year of credited service up to 20 years.

6. Deferred Vested Retirement

- a. Eligibility Completion of 10 years of credited service (for elected and appointed members, 6 years in the event of involuntary termination).



SUMMARY OF PRINCIPAL PROVISIONS (Continued)

- b. Retirement Allowance Determined in the same manner as 5b. with the benefit payable at age 55, unless deferred until later at the member's option.

Member contributions with interest may be withdrawn after separation from service. If contributions are withdrawn, eligibility for retirement benefits is forfeited. Members hired before 1984 receive full interest on contributions that are withdrawn; otherwise, one half the credited interest is provided for members who withdraw after 5 but before 10 years of credited service and no interest is provided for withdrawals before 5 years of credited service.

7. Ordinary Disability Retirement

- a. Eligibility Non-job related disability after completion of 10 years of credited service.

- b. Retirement Allowance Determined in the same manner as 5b. with the benefit payable immediately. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.

8. Accidental Disability Retirement

- a. Eligibility Disabled as a result of an accident in the performance of duties. No age or service requirement.

- b. Retirement Allowance 72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).



GLOUCESTER CONTRIBUTORY RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL PROVISIONS (Continued)

9. Non-Occupational Death

- | | |
|-------------------------|---|
| a. Eligibility | Dies while in active service, but not due to occupational injury. 2 years of service. |
| b. Retirement Allowance | Benefit as if Option C had been elected (see below). Minimum monthly benefits provided as follows: spouse - \$250, first child - \$120, each additional child - \$90. |

10. Occupational Death

- | | |
|-------------------|---|
| a. Eligibility | Dies as a result of an occupational injury. |
| b. Benefit Amount | Same as 8b. |

11. Cost-of-Living Increases

An increase of up to 3% applied to the first \$12,000 of annual benefit. Funded by the Municipality from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through Fiscal 1998 are reimbursed by the Commonwealth.

12. Optional Forms of Payment

- | | |
|-------------|--|
| a. Option A | Allowance payable monthly for the life of the member. |
| b. Option B | Allowance payable monthly for the life of the member with a guarantee of remaining member contributions with interest. |
| c. Option C | Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops up" to the non-reduced amount. |



GLOSSARY OF TERMS

1. Present Value of Benefits Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.
2. Actuarial Cost Method The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.
3. Actuarial Assumptions Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.
4. Actuarial Accrued Liability The portion of the Present Value of Benefits that is attributable to past service.
5. Normal Cost The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.
6. Actuarial Assets Market value of assets of the funds, adjusted by payables and receivables, set aside through employer and member contributions to provide for benefits. The assets are further adjusted by asset smoothing if this methodology is used by the retirement system.
7. Unfunded Actuarial Accrued Liability That portion of the Actuarial Accrued Liability not covered by System Assets.
8. PERAC Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.
9. PRIT Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system.
10. GASB Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities).